

REMARKS

A. *Status of the Claims*

Claims 24-31, 33-39, and 41 are currently pending. Claims 24, 33, 36, and 41 have been amended. No new matter was introduced. Therefore, claims 24-31, 33-39, and 41 remain in this application and are presented for reconsideration.

B. *Section 103 Rejections*

1. *Claims 36-39 Are Not Rendered Obvious*

Claims 36-39 stand rejected as being obvious over U.S. Patent No. 5,922,537 to Ewart *et al.* (the Ewart reference) in view of U.S. Patent No. 5,653,859 to Parton *et al.* (the Parton reference). In light of the claim amendments and foregoing comments, Applicants respectfully traverse.

Independent claim 36 has been amended and now recites:

A method for detecting a complex within a sample, the method comprising:

- admixing with the sample a linking element and an engineered microparticle comprising a conductive core and an insulating layer coating the conductive core, the insulating layer having a thickness sufficient to render the engineered microparticle maneuverable by dielectrophoresis, the engineered microparticle having a first dielectric property;
- associating the engineered microparticle with a target analyte to form the complex, the complex having a second dielectric property;
- providing the complex to a field flow fractionation chamber;
- providing a fluid flow in the fluid fractionation chamber; and
- detecting the complex by distinguishing between the first and second dielectric properties using dielectrophoresis-field flow fractionation separation.

Support the amendment may be found, for example, in FIG. 5 and supporting text of the Specification.

The Ewart reference and the Parton reference, separately or in combination, fail to teach or suggest all the elements of claim 36. In particular, the Ewart and Parton references fail to disclose, amongst other elements, providing a complex to a fluid fractionation chamber, providing a fluid flow in the fractionation chamber, or detecting the complex by distinguishing between the first and second dielectric properties using dielectrophoresis-field flow fractionation separation.

For at least the reasons provided above, claim 36 and its respective dependent claims are patentably distinct over the cited references. Applicants respectfully request that the current rejection to claims 36-39 be withdrawn.

2. *Claims 24-31 and 33-35 are Not Rendered Obvious*

Claims 24-31 and 33-35 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the Ewart and Parton references in view of U.S. Patent No. 6,219,137 to Vo-Dinh. In light of the claim amendments and foregoing comments, Applicants respectfully traverse.

Claims 24 and 33 have been amended and recite, in part:

(Claim 24)

admixing with the sample a linking element and an engineered microparticle comprising a conductive core and an insulating layer coating the conductive core, the insulating layer comprising one or more self-assembled monolayer layers and having a thickness sufficient to render the engineered microparticle maneuverable by dielectrophoresis;
associating the engineered microparticle with a target analyte to form the complex;
providing the complex to a fluid fractionation chamber;
providing a fluid flow in the fluid fractionation chamber; and
manipulating the complex using dielectrophoresis-field flow fractionation

(Claim 33)

admixing with the sample a plurality of engineered microparticles, each microparticle having a different dielectric property;
associating the plurality of engineered microparticles with one or more target analytes to form one or more complexes;
providing the one or more complexes to a field flow fractionation chamber;
providing a fluid flow in the fluid fractionation chamber; and
identifying the one or more complexes by distinguishing between the different dielectric properties using different dielectrophoretic-field flow fractionation responses to an AC electrical field

Support for the claim amendments may be found, for example, in FIG. 5 and the supporting text of the Specification.

As noted above, neither the Ewart reference nor Parton reference, separately or in combination, teach or suggest providing a complex to a fluid fractionation chamber or providing

a fluid flow in the fractionation chamber. Ewart and Parton also each fail to teach or suggest manipulating the complex using dielectrophoresis-field flow fractionation, as recited in claim 24 and identifying the one or more complexes by distinguishing between the different dielectric properties using different dielectrophoretic-field flow fractionation responses to an AC electrical field, as recited in claim 33.

The Vo-Dinh reference fails to provide the deficiencies of the Ewart reference and/or Parton reference. The Vo-Dinh reference provides nanoprobe to be delivered into biological, chemical, or physical structure *to provide surface-enhanced Raman (SER) emission*. See Summary of the Invention, discussing the object of the invention. Nowhere in the Vo-Dinh reference is there a teaching or suggestion for providing a complex to a fluid fractionation chamber, providing a fluid flow in the fractionation chamber, and manipulating or identifying, the complex using dielectrophoresis-field flow fractionation, as recited in claims 24 and 33, respectively.

For at least the above reasons, independent claims 24 and 33, and their respective dependent claims, are patentable over the cited references. Applicants respectfully request the withdrawal of the rejections to claims 24-31 and 33-35 for at least the above reasons.

C. *Addressing Claim 41*

Applicants submit that claim 41, which has not been indicated as being allowed, objected to, or stand rejected over any references, is patentably distinct over the cited references.

D. *Addressing the Restriction and/or Election Requirement*

The Office has indicated that claims 1-18, 24-31, 33-39 and 41 are subject to a restriction and/or election requirement but has failed to provide any support. See *Office Action Summary*. Applicants request the removal of this requirement.

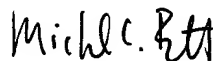
PETITION FOR EXTENSION OF TIME

Pursuant to 37 C.F.R. § 1.136(a), Applicants petition for an extension of time of three-months up to and including February 12, 2007 (February 10 fell on a Saturday), in which to respond to the outstanding Action. A check in payment of the small entity petition fee for a three-month extension of time (\$510.00) is enclosed. Should any additional fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to the enclosed materials, or should an overpayment be included, the Commissioner is authorized to deduct or credit the appropriate fees to or from Fulbright & Jaworski Deposit Account No. 50-1212/UTXC:626US/MCB.

CONCLUSION

All pending claims are believed to be in condition for allowance. Should the Examiner have any questions, comments, or suggestions relating to this application, he is invited to contact the undersigned attorney at (512) 536-3018.

Respectfully submitted,



Michael C. Barrett
Reg. No. 44,523
Attorney for Applicants

FULBRIGHT & JAWORSKI L.L.P.
600 Congress Avenue, Suite 2400
Austin, Texas 78701
Telephone: 512/536-3018
Facsimile: 512/536-4598

Date: February 12, 2007